PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application	:	WALTER SCHUBERT
Application No.	:	
Filed	:	Herewith
For	:	PROCESS FOR IDENTIFYING AND ENRICHING CELL-SPECIFIC TARGET STRUCTURES
Examiner	:	
Attorney's Docket	:	HSS-016XX

Group Art Unit:

* *

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on _____.

By:_____
Charles L. Gagnebin III
Registration No. 25,467
Attorney for Applicant

* *

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Kindly enter the following Preliminary Amendment in the above-identified application:

In the Claims:

Please amend the claims to read as follows (a copy of the amended claims showing the additions and deletions appears at the end for the Examiner's convenience):

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3. The process as claimed in claim 1 wherein said surface is a human or animal tissue section and/or endothelioid cells and/or protein chips and/or a cultivated piece of human or animal tissue.

4. The process as claimed in one claim 1 wherein the cell-specific target structures are identified in a process comprising the following steps:

(I) automatically depositing a reagent solution Y1 that includes at least one marker molecule on said cell-specific target structure;

(II) allowing the reagent solution Y1 to react, and automatically detecting at least one marker pattern of the target structure labeled with the reagent solution Y1;

(III) removing said reagent solution Y1 before or after detecting the marker pattern, and repeating steps (I) and (II) with further reagent solutions Yn (n = 2, 3, ..., N) each containing said at least one marker molecule and/or at least another marker molecule; and

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(IV) combining the marker patterns detected in step (II) to give a complex molecular combination pattern of the cell-specific target structure.

5. The process as claimed in claim 1 wherein the selected target structures are biochemically characterized in procedural step e) by means of a molecule or molecular complex separation process, in particular a protein separation process.

7. The process as claimed in claim 1 wherein the following procedural step is performed after procedural step d):

d1) conducting inhibition experiments regarding one or plural ingredients of the cell-specific target structures selected in procedural step (d) for detecting a binding hierarchy of the ingredients.

Please add the following new claims 10 - 12:

10. The process as claimed in claim 2 wherein:

said surface is a human or animal tissue section and/or endothelioid cells and/or protein chips and/or a cultivated piece of human or animal tissue;

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the cell-specific target structures are identified in a process comprising the following steps:

(I) automatically depositing a reagent solution Y1 that includes at least one marker molecule on said cell-specific target structure;

(II) allowing the reagent solution Y1 to react, and automatically detecting at least one marker pattern of the target structure labeled with the reagent solution Y1;

(III) removing said reagent solution Y1 before or after detecting the marker pattern, and repeating steps (I) and (II) with further reagent solutions Yn (n = 2, 3, ..., N) each containing said at least one marker molecule and/or at least another marker molecule; and

(IV) combining the marker patterns detected in step (II) to give a complex molecular combination pattern of the cell-specific target structure;

the selected target structures are biochemically characterized in procedural step (e) by means of a molecule or molecular complex separation process, in particular a protein separation process;

said protein separation process is a 2D gel electrophoresis; and

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the following procedural step is performed after procedural step (d):

conducting inhibition experiments regarding one or plural ingredients of the cell-specific target structures selected in procedural step (d) for detecting a binding hierarchy of the ingredients.

11. The process as claimed in claim 10 wherein said ingredients are single or plural proteins of a cell-specific protein combination pattern.

12. A process for identifying and enriching cell-specific target structures, in particular for the identification of cell-specific protein combination patterns on the surface of cells and for enriching such cells, wherein said process comprises the following steps:

(a) depositing a heterogeneous cell mixture on one or plural surfaces with predefined structures, causing cells with corresponding target structures to become bound to such surface(s);

(b) removing any non-binding cells of said cell mixture from said surface(s);

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(c) identifying the cell-specific target structures responsible for the binding of the cells to said surface(s);

(d) selecting and enriching cells with identical cell-specific target structures on said surface(s);

(e) automatically depositing a reagent solution Y1 that includes at least one marker molecule on said selected and enriched cell-specific target structure;

(f) allowing the reagent solution Y1 to react, and automatically detecting at least one marker pattern of the target structure labeled with the reagent solution Y1;

(g) removing said reagent solution Y1 before or after detecting the marker pattern, and repeating steps (f) and (g) with further reagent solutions Yn (n = 2, 3, ..., N) each containing said at least one marker molecule and/or at least another marker molecule; and

(h) combining the marker patterns detected in step (g) to give a complex molecular combination pattern of the selected and enriched cell-specific target structure.

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REMARKS

This Preliminary Amendment puts the claims into proper form for examination. Notes that claims 3-5 and 7 have been amended; new claims 10-12 have been added; and claims 1, 2, 6, 8,and 9 remain unchanged. Kindly calculate the filing fee based on the amended claims.

The Examiner is encouraged to telephone the undersigned attorney to discuss any matter which would expedite allowance of the present application.

Respectfully submitted,

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CLG/mc/245600-1

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Red-lined claims for the Examiner's convenience

3. The process as claimed in ~~one of the preceding~~ claim~~s~~ 1 wherein said surface is a human or animal tissue section and/or endothelioid cells and/or protein chips and/or a cultivated piece of human or animal tissue.

4. The process as claimed in one ~~of the preceding~~ claim~~s~~ 1 wherein the cell-specific target structures are identified in a process comprising the following steps:

(V) automatically depositing a reagent solution Y1 that includes at least one marker molecule on said cell-specific target structure;

(VI) allowing the reagent solution Y1 to react, and automatically detecting at least one marker pattern of the target structure labeled with the reagent solution Y1;

(VII) removing said reagent solution Y1 before or after detecting the marker pattern, and repeating steps (I) and (II) with further reagent solutions Yn (n = 2, 3, ..., N) each containing said at least one marker molecule and/or at least another marker molecule; and

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(VIII) combining the marker patterns detected in step (II) to give a complex molecular combination pattern of the cell-specific target structure.

5. The process as claimed in ~~one of the preceding~~ claims 1 wherein the selected target structures are biochemically characterized in procedural step e) by means of a molecule or molecular complex separation process, in particular a protein separation process.

7. The process as claimed in ~~one of the preceding~~ claims 1 wherein the following procedural step is performed after procedural step d):

d1) conducting inhibition experiments regarding one or plural ingredients of the cell-specific target structures selected in procedural step (d) for detecting a binding hierarchy of the ingredients.

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